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Securing the Silk Road was imperative and the responsibility fell to many. Power and wealth garnered on this vast transit network was directly proportional to the ability to control at least part of it. The Huns, the Turks, the Persians, and the Mongols all contributed and reaped accordingly. In the late nineteenth century, A.T. Mahan identified the role sea power played in making Great Britain a dominant power. Despite collective maritime guarantees, globalization continues to alter the trade landscape. Seaborne trade is still very important, but certain aspects of global trade, particularly energy, have significant components passing through land pipelines in areas far from the shore. Many of these pipelines pass through regions with ongoing and simmering conflicts. Ensuring the free flow of oil and natural gas through these pipelines differs little from the requirement to ensure the free flow of commerce as Mahan suggested. Energy lanes require a security commitment akin to sea lanes, but the navy, alone, is no longer adequate. In fact, the network of global energy lanes comprise a new Silk Road and necessitate a rapidly deployable, joint, expeditionary force-in-being to ensure American security guarantees have value.

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GLOBAL ENERGY TRADE AND THE JOINT EXPEDITIONARY FORCE: SUPPORTING FRIENDS AND INFLUENCING OTHERS ON THE NEW SILK ROAD

by

MAJ Jason E. Kelly, USA

A paper submitted to the Faculty of the Joint Advanced Warfighting School in partial satisfaction of the requirements of a Master of Science Degree in Joint Campaign Planning and Strategy.

The contents of this paper reflect my own personal views and are not necessarily endorsed by the Joint Forces Staff College or the Department of Defense.

Signature: _____

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Abstract

Securing the Silk Road was imperative and the responsibility fell to many. Power and wealth garnered on this vast transit network was directly proportional to the ability to control at least part of it. The Huns, the Turks, the Persians, and the Mongols all contributed and reaped accordingly. In the late nineteenth century, A.T. Mahan identified the role sea power played in making Great Britain a dominant power. His posit was based on the period from the death of Oliver Cromwell until the end of the American Revolution. During this period, all significant long distance trade was conducted by sea and control of sea lanes was necessary and sufficient for the free flow of goods. In more recent times, the U.S. Navy has provided a great deal of the requisite maritime security for international trade. Despite collective maritime guarantees, globalization continues to alter the trade landscape. Seaborne trade is still very important, but certain aspects of global trade, particularly energy, have significant components passing through land pipelines in areas far from the shore. Many of these pipelines pass through regions with ongoing and simmering conflicts. Ensuring the free flow of oil and natural gas through these pipelines differs little from the requirement to ensure the free flow of commerce as Mahan suggested. Energy lanes require a security commitment akin to sea lanes, but the navy, alone, is no longer adequate. In fact, the network of global energy lanes comprise a new Silk Road and necessitate a rapidly deployable, joint, expeditionary force-in-being to ensure American security guarantees have value.

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I. Introduction

This study will investigate changes in the landscape of international energy trade and the impact of these changes on global energy security. Michael Klare, the preeminent expert on resource geopolitics, forecasts a future of surprising new alliances and explosive danger. The problem of "energy security" – as it is widely termed – has climbed toward the top rung of the international ladder of unease and concern.[1] Klare suggests that these changes have dramatically altered power and influence since the collapse of the Soviet Union. Energy trade is, arguably, the defining aspect that differentiates the post-Cold War world from the past. More specifically, policymakers are now viewing the global power equation in entirely new ways.[2] The United States, as the world's preeminent military power, will be called upon to intercede in regional conflicts rooted in energy trade. The country has a keen interest in the free flow of energy. Diplomats must have the use of military force at their disposal when assuring friends and influencing the actions of others.

Changes in the landscape of global energy trade necessitate a rapidly deployable, joint, expeditionary force-in-being to ensure American security guarantees have value. This paper will explore the evolution of global energy trade, the role of land pipelines, and the international economic impact of energy trade. An analysis of conflict, strategic accessibility to energy-rich regions, and the concept of the force-in-being will further probe the subject. The value of transformation and the existence of a joint expeditionary

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[1] Michael T. Klare, *Rising Powers, Shrinking Planet: The New Geopolitics of Energy* (New York: Metropolitan Books, 2008), 9-14.
[2] Ibid., 14.

force-in-being will be demonstrated while highlighting the domestic and international danger posed by its perceived loss.

In the late nineteenth century, A.T. Mahan identified the vital role sea power played in making Great Britain a dominant power.[3] His posit was based on the period from the death of Oliver Cromwell until the end of the American Revolution. At the time of his writing, all significant long distance trade was conducted by sea. Although caravans traded locally, the sea lanes were the means by which the continents traded with each other. The sea served as a great highway. Despite the familiar and unfamiliar dangers of seaborne trade, both travel and traffic by water were easier and cheaper than by land.[4] A world-class navy and control of the seas was necessary and sufficient to project power and guarantee the free flow of commerce. The global economy has changed. Seaborne trade is still very important, but certain aspects of global trade, particularly energy, have significant components passing through land pipelines in areas far from the shore. Many of these pipelines pass through regions with ongoing and simmering conflicts. At a seminar titled "Energy and Conflict: Current Controversies" more than 60 individuals from the private sector, national governments, embassies and delegations, industrial and environmental lobbies, research institutions, and non-governmental agencies convened in Paris to share insights regarding relations between energy exporting and energy importing countries. Fears related to the future scarcity of oil and the world's dependence on OPEC and the countries of the former

[3] A.T. Mahan, *The Influence of Sea Power Upon History 1660-1783* (New York: Dover Publications, Inc., 1987), 82-83.
[4] Ibid., 25.

Soviet Union dominated the session.[5] "Energy Security" is the current buzzword in western capitals. These two words have quietly crept into mission statements of governments and international agencies.[6] Moscow is proving to be an unreliable partner while China and India's requirements continue to grow and the Middle East and Africa remain volatile. Several major energy exporting countries are far from the world's oceans and tankers. Such countries must rely on pipelines to get their oil and gas to market. Pipelines are fixed and inflexible. The pipeline route is critical; the oil or gas can only go where the pipeline goes.[7] Ensuring the free flow of oil and natural gas through these pipelines differs little from the requirement to ensure the free flow of commerce during the Mahan era. The navy, alone, however, is no longer enough. A joint expeditionary force is required.

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[5] Danila Bochkarev, "Energy and Conflict Current Controversies Event Report and Next Steps." Madariaga European Foundation Summarizing Report (April 2007), http://www.ciaonet.org/pbei/ewi/ewi10204/ewi10204.pdf (accessed August 21, 2008).

[6] John Foster,"A Pipeline Through a Troubled Land: Afghanistan, Canada, and the New Great Energy Game," *Canadian Centre for Policy Alternatives Foreign Policy Series* Volume 3, No. 1 (June 19, 2008): 10.

[7] Ibid.

> ***It is the maxim of every prudent master of a family, never attempt to make at home what it will cost him more to make than to buy…If a foreign country can supply us with a commodity cheaper than we ourselves can make it, better buy it of them.***
>
> **Adam Smith**[8]

II. The Silk Road, Mahan, and the New Global Economy

In the mid-nineteenth century, Central Asia's Silk Road became the fascination of countless newspapers, magazines, and books resultant of the publication of the German explorer, Baron Ferdinard von Richthofen's enlightened travels. It was von Richthofen that coined the term "Silk Road" while describing the vital role Central Asia played in the giving and receiving of cultural wealth to all who crossed its bleak steppes and deserts.[9] Silk, however, was not the only cargo carried by the caravans, nor was the traffic only one-way. Many natural and manmade products ranging from bronze and porcelain to wool and cobalt were transported over the centuries from East to West and West to East. The overland and maritime extensions of the thoroughfare stretched as far as Rome, Venice and Cadiz in the west and far as Nara in the east.[10] The Silk Road was more than a trade route. It was a channel for the spread of ideas, technologies, religious concepts and the arts. The transit network was a vehicle for cross-fertilization between civilizations.

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[8] Adam Smith, ed. Andrew Skinner, *The Wealth of Nations*, (London: Penguin Books, 1999), 33.
[9] Vadime Elisseeff, *The Silk Roads*, (New York: Begrhahn Books, 2008), 2-3.
[10] "Rediscovering the Silk Roads," *UNESCO Courier* (November 1988), http://findarticles.com/p/articles/mi_m1310/is_1988_Nov/ai_7016812 (accessed September 10, 2008), 1.

The strategic importance of the Silk Road has never been doubted. The routes were trafficked by merchants, monks, mercenaries, and others.[11] The journey was a difficult and dangerous one. Securing the Silk Road was the responsibility of many different groups. The Huns, the Turks, the Persians, the Mongols, and the Mongol-Turkish empire of Timur controlled various sections.[12] China later reasserted strong control of the eastern section of the route with the defeat of various Turkish tribes and renewed control over the Tarim Basin and Eastern Turkestan. The Chinese faced powerful enemies in the form of the Tibetans from the south and Persians from the west.[13] Power and wealth on the Silk Road was directly proportional to the ability to control it. Access to the road depended on the stability and policies of key powers along the route.[14]

Muscle, Money, and Mahan

Despite the many years that separate the eras, Great Britain's triumph from the early 17th century until 1776 is a result of the strength of its navy and the control it exerted on the high seas. Respectively, the maritime success and commercial appeal of Great Britain was extremely influential in the writings of famed historian and strategist Alfred Thayer Mahan. He understood the historic linkage of prosperity and control of the sea. Resultant of its navy, Great Britain was able to establish a world-embracing empire

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[11] Susan Whitfield, *Life Along the Silk Road*, (Berkley: University of California Press, 1999), 2.
[12] B.N. Puri, *Buddhism in Central Asia*, (Delhi: Motilal Banarsidass Publishers, 1987), 11-16.
[13] James R. Ferguson, "Geopolitics of the Silk Road: Beyond Mahan and MacKinder," *Essays in History, Culture and Politics* (2007) http://www.international-relations.com/History/GeopoliticsSilkRoad.htm (accessed September 10, 2008).
[14] Ibid.

with dominions and colonies, with massive penetration of trade and access to third world resources which were then denied other powers.[15] Mahan argued that "when a nation's prosperity depends upon shipborne commerce, and the amount of trade is limited, then competition follows, and that leads to a naval contest to protect trade.[16] He believed it was just a matter of time before someone challenged the western hemisphere superiority of the United States. For more than twenty years after his unremarkable naval career, Mahan achieved international acclaim spreading the gospel of prosperity through naval superiority. He posited that the combination of maritime commerce, overseas possessions, and privileged access to foreign markets produces national wealth and greatness.[17] As a result, he espoused the virtues of sea power and was a staunch navy advocate. Mahan recognized the interdependence of navies. He once stated, "political, commercial, and military needs are so intertwined that their mutual interaction constitutes one problem."[18] Following his lead, the United States would eventually build the world's greatest navy.

Although Mahan attributes his ideas to no particular man or previous study, he recognized the need for security and the ability to wage war decisively to permit the free flow of commerce. President Theodore Roosevelt, a great admirer of Mahan's work, made the following statement to a midwestern audience: "Friends, the Navy is not an affair of the seacoast only. There is not a man who lives in the grass country, in the cattle

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[15] Ferguson, "Geopolitics of the Silk Road: Beyond Mahan and MacKinder".
[16] George W. Baer, *One Hundred Years of Sea Power* (Stanford: Stanford University Press, 1994), 12.
[17] Peter Paret, ed. *Makers of Modern Strategy: from Machiavelli to the Nuclear Age* (Princeton: Princeton University Press, 1986), 444-451.
[18] Ibid., 467.

country, or among the Great Lakes, or alongside the Missouri who is not just as keenly interested in the Navy as if he dwelt on the New England Coast, or on the Gulf Coast, or on Puget Sound."[19] Roosevelt, a pro-Navy president, often used Mahan's writings to support his arguments for naval preparedness.[20]

The World's Greatest Navy

At the turn of the century, pro-navy politicians were hard to find. In the summer of 1890, Mahan penned an article for the *Atlantic Monthly* that shed light on the linkage of distant markets, American production capabilities, and the potential might of the U.S. Navy. At the time of the writing, most citizens were content producing only what they could and would consume. As Mahan and others encouraged Americans to look outward, the world could not help but notice the policy shift from simple self-sufficiency to commercial extension and influence in distant regions.[21] Mahan understood such a shift in policy required a shift in military posture as well:

> Despite a certain great original superiority conferred by our geographical nearness and immense resources, − due, in other words, to our natural advantages, and not to our intelligent preparations, − the United States is woefully unready, not in fact but in purpose, to assert in the Caribbean and Central America a weight of influence proportioned to the extent of her interests. We have not the navy, and, what is worse, we are not willing to have the navy, that will weigh seriously in any disputes with those nations whose interests will conflict there with our own. We have not, and we are not anxious to provide, the defence of the seaboard which will leave the navy free for its work at sea. We have not, but many other powers have, positions, either within or on the borders of the Caribbean, which not only possess great natural advantages for the control of that sea, but have

[19] Paret, *Makers of Modern Strategy: from Machiavelli to the Nuclear Age*, 237.
[20] Ibid., 473.
[21] A.T. Mahan, *The Interest of America In Sea Power, Present and Future* (Boston: Little, Brown, and Company: 1918, 6-7.

> received and are receiving that artificial strength of fortification and armament which will make them practically inexpugnable.[22]

The acerbity of Mahan's prose did not fall on deaf ears. The nation's need to protect its commercial interests and coasts in the east and west would ultimately compel the investment of treasure to acquire a fleet capable of advancing and protecting U.S. interests.

The creation of the world's greatest navy was not accomplished hastily. The task certainly was not initiated on a schedule amenable to Mahan. After identifying potentially profitable sea lanes he struggled to understand why the nation's leaders did not exploit this good fortune.[23] In 1911 he wrote, "The question for the United States, as regards the size of its navy, is not so much what it desires to accomplish as what it is willing or not willing to concede."[24] In 1880, the United States ranked twelfth among the world's naval powers. By the time Mahan died in December of 1914, it was third. Not more than two years after his death in 1916, the nation committed to the establishment of a fleet that was second to none.[25]

The occasion has come for America to revisit this question, but this time with a slight twist. In his best-selling book, *The World is* Flat, author Thomas Friedman posits that the world is flattening and shrinking at an alarming rate. A world-class navy and control of the seas is not enough. The global economy has, indeed, changed. Seaborne

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[22] Mahan, *The Interest of America In Sea Power*, 13-14.
[23] Ibid., 20.
[24] Mahan, A.T., *Armaments and Arbitration* (Port Washington: Kennikat Press:1973), 67.
[25] Baer, *One Hundred Years of Sea Power*, 11.

trade, though still vibrant, is but one aspect. Global trade, specifically energy trade, has significant components passing through land pipelines in areas far from the shore. Energy lanes require a security commitment akin to sea lanes. In fact, the vast network of global energy lanes comprise the new Silk Road.

The defining feature of global energy markets remains high and volatile prices, reflecting a tight balance of supply and demand. This has put issues such as energy security and alternative energies at the forefront of the political agenda worldwide.

Tony Hayward[1]
CEO, British Petroleum

III. The New Silk Road

The United States has long been an advocate of free and fair trade. More specifically, it is the policy of the United States to promote democracy, open markets, and amalgamate the global economy.[2] For many years, energy has been at the forefront of this ideology. In fact, the network of sea lines and pipelines that comprise the world's energy lanes function not unlike the Silk Road of old. In general, world energy consumption is discussed in five categories: coal, oil, gas, hydro-electric, and nuclear. The aforementioned categories are commonly considered sources of commercial energy. Traditional or non-commercial energy sources include firewood, animal dung, agricultural wastes, and charcoal. While traditional energy forms are still very important in most developing countries, almost all energy needs in industrialized states are fulfilled by commercial energy sources. The 2006 National Security Strategy of the United States specifically addresses the need to open, integrate, and diversify energy markets to achieve energy independence. The bulk of the world's energy demand is provided by a select

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[1] Finfacts Team, "BP Statistical Review of World Energy 2008: Energy Consumption rises as Supplies Lag says oil giant; Oil price has been on an upward path for more than six years - longest period since 1861," *Finfacts Ireland Business and Finance Portal*, (June 11, 2008), http://www.finfacts.com/irishfinancenews/article_1013878.shtml (accessed September 22, 2008).
[2] U.S. President, 2006, *The National Security Strategy of the United States of America*, (Washington, DC: Government Printing Office, 2006), 26.

few. Despite its status as the world's third largest oil producer, the United States imports more than half of the oil the country requires. Energy lanes enable this vital transaction. In an article published in the *International Herald Tribune*, on June 25, 2008, it was noted that the United States Energy Administration Agency expected the global demand for energy to continue its rapid growth. This growth is especially dramatic in developing countries, led by China and India. Both are expected to have continued strong economic growth over the next two decades. Based on statistical data, the world's demand for oil will grow to over 120 million barrels a day by 2030.[3] This is almost fifty-percent more than what is consumed today. China's rapid growth and colossal energy demand pose new challenges for the international community. Friedman recalls multiple casual conversation references to the Straits of Malacca while attending a conference in Beijing.[4] The narrow passage between Malaysia and Indonesia is patrolled by the U.S. Navy and controls all oil tanker traffic from the Middle East to China and Japan. Chinese strategic planners, for good reason, are concerned about an adversary's ability to close the strait and deprive the Chinese economy of this much needed resource.

On September 24, 2008, The Wall Street Journal reported that China and Venezuela agreed to jointly build two oil refineries, one in each country. Though not the focus of this study, the antics of Venezuelan President Hugo Chávez bear mentioning. Much like the audacious leaders in Russia, Chávez frequently uses energy as an instrument of political coercion. He claims that Venezuela has enough oil to last for 200

[3] Fatih Birol, "World Energy Outlook to 2030," International Energy Agency (2002), http://www.iea.org/textbase/speech/2001-2002/birol.pdf (accessed October 15, 2008).
[4] Thomas L. Friedman, *The World Is Flat*, (New York: Farrar, Straus, and Giroux, 2006), 498.

years and hopes to bolster ties with China through increased oil sales. The outspoken leader has long been a thorn in the side of American oil companies and the international oil industry. While campaigning in 2007, then presidential candidate and former mayor of New York, Rudy Giuliani called for the United States to develop alternative energy sources and take advantage of oil already in its control. He suggested that antagonistic leaders of oil-rich nations, like Chávez, would have "little power" if the United States could stop buying oil from them.[5] In fact, Chávez is motivated partly by his own desire to reduce dependency on the United States, which buys over half of Venezuelan exports despite a strained relationship. The Chinese agreement will expand Venezuela's reach and establish a new energy lane.

While closing the deal with China, Chávez wallowed in the dispatch of a Russian naval squadron to conduct joint maneuvers with the Venezuelan navy. He is adamant about his country's desire for proper recognition and not to be considered the "backyard of the United States". The deployment of Russian military power to the Western Hemisphere is unprecedented since the Cold War and followed a weeklong visit to Venezuela by a pair of Russian strategic bombers. Calls for a united Western front, regarding energy access, against Russia have repeatedly fallen on deaf ears. On more than one occasion, Russian leaders have demonstrated who holds the cards in the global energy game. In 2006, then President Vladimir Putin said, "We constantly hear about some threat of dependence on Russia and that Russian companies should have limited

[5] Liz Sidoti, "Rudy Giuliani Assails Venezuela's Chavez," *Washington Post* (May 2, 2007), http://www.washingtonpost.com/wp-dyn/content/article/2007/05/02/AR2007050200306_pf.html (accessed November 11, 2008).

access to the energy market. Think about it from our point of view. What are we to do when we hear the same thing every day? We start looking for other markets."[6] Perhaps the exportation of energy security is the next commercial venture for the fledgling Russian representative democracy.

The recent conflict between Georgia and Russia is another example of energy lanes and their global reach. The engagement certainly posed a threat to key oil and gas pipelines in the region, as Georgia is a conduit for energy exported to Western markets. The Georgian city of Gori, though outside of the South Ossetian conflict zone, sits astride three energy transit pipelines: the Baku-Tbilisi-Ceyhan oil pipeline, the Baku-Tbilisi-Supsa oil pipeline, and the Shah Deniz natural gas pipeline. Resultant of the conflict, energy giant British Petroleum closed the Baku-Tbilisi-Supsa oil pipeline with plans to resume operations immediately after Moscow halted its offensive. The British Petroleum decision was influenced by an attack on the Baku-Tbilisi-Ceyhan oil pipeline in eastern Turkey that rendered it inoperable the previous week.[7] Many Europeans are dependent upon the energy that flows through this region. Unfettered flow is of the essence. The security of critical energy lanes and regional stability are inexplicably linked. British Petroleum's response to the conflict in Georgia is but a glimpse into the future and the ever increasing importance of energy security.

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[6] Vladimir Radyuhin, "Russia's Energy Diversification Moves," *The Hindu* (May 31, 2006), http://yaleglobal.yale.edu/display.article?id=7490 (accessed March 3, 2009).
[7] "BP says it has reopened gas taps into Georgia," *Breitbart.com*, (August 14, 2008), http://www.breitbart.com/article.php?id=080814100549.1kcrfsgo&show_article=1 , (accessed August 14, 2008).

As previously stated, there exist a select few energy-rich regions in the world. As fate would have it, many of these regions are unstable and do not house allies of the United States. The U.S. acknowledges that the world's dependence on these few suppliers is neither responsible nor sustainable over the long term.[8] Energy-rich regions in the Caucasus and Caspian, the Persian Gulf, and untapped expanses of Africa are rampant with corruption and home to sustained conflict. Instability in these regions has both economic and security impacts on the United States. A resurgent Russia, a belligerent Iran, political volatility in South America, and warring factions in Africa possess great potential to disrupt essential energy lanes and deny suppliers access to consumers. Terrorists have already attacked key energy producing assets and transportation infrastructure. Oil revenues provide opportunities for corruption and the advancement of violent ideologies.[9] In addition, certain states are using energy as a strategic political weapon. This new Silk Road has rapidly become a global, environmental, social, and economic issue that requires a rapid response from governments, the business community, and civil society.[10]

The Caucasus and the Caspian

In the heart of Eurasia, a region where Russian, Turkish, Iranian, and a host of others with differing political and social traditions all meet, lies a viable alternative energy source. To date, the potential of this area has been presented as a diversification

[8] 2006 National Security Strategy, 28.
[9] Ibid.
[10] Danila Bochkarev, "Energy and Conflict Current Controversies Event Report and Next Steps."

solution. Some suggest that the estimates have been overhyped and overestimated.[11] Regardless of where you stand on the prognosis, it cannot be refuted that the collapse of the Soviet Union propelled Armenia, Azerbaijan, Kazakhstan, Turkmenistan, Uzbekistan, and Georgia to the top of many energy diversification discussions. Despite longstanding problems, if the post-Soviet Caspian-Caucasus region can achieve amicable relations with Russia, there lies great potential for an alternative global energy source.[12]

Attempts to exploit the potential of this region are not new. The Caspian-Caucasus is one of the oldest energy producing areas in the world. Tales of the area around Baku's "eternal fires" have been narrated for quite some time.[13] The region and its natural flowing energy provide the substance of many legendary stories. In the mid-thirteenth century while travelling along the Silk Road, Marco Polo wrote, "On this frontier towards Georgiana, there is a spring from which flows oil in such abundance that a hundred ships at a time may be loaded with it…People come from great distances to fetch this oil."[14] German traveler, Engelbert Kampfer offers an interesting and very detailed account of Baku's energy abundance in 1684:

> We went further and half an hour later came across a piece of land that was on fire; it was covered with a whitish gravel and ash dust. Many flames, wonderful to behold, issued from the numerous cracks. A few cracks were burning fiercely and the flames, shooting far out, filled the onlookers with dread; but they all consented to step quite near to the less fierce flames issuing from other cracks. Yet more of them gave off clouds

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[11] Maureen Crandall, *Energy, Economics, and Politics in the Caspian Region*, (Westport: Praeger Security International, 2006), 1.
[12] Bulent Gokay, *Oil and Geopolitics in the Caspian Sea Region*, ed. Michael P. Croissant and Bulent Aras (Westport: Praeger, 1999), 16.
[13] Ibid.
[14] Luigi Foscolo Benedetto , *The Travels of Marco Polo*, translated by A. Ricci, (London: George Routledge and Sons, 1931), 21-22.

> of smoke or vapor which were hardly visible, but from which emanated a very strong smell of naptha. The wonderful phenomenon extended to over ninety paces in length and twenty-six in width. The cracks were astonishingly small, split open to no more than a hand or foot's width. From this naptha there emanates a fine gas which has the power of causing the flames of a stove or lamp to blaze in no time, and which, once lit, burns away inextinguishably.
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> After riding for two hours away to the West, we experienced the third memorable occurrence of the peninsula at the source of the black naptha, extending for a distance of some hundred paces West to East. The whole of surface is colored black by the petroleum which is forced out, as if it were covered with pitch, for when naptha dries it thickens to a similar consistency. The air is filled with a pungent odor which is offensive and almost unbearable to sensitive noses, even at a considerable distance. Some of the irregularly strewn cavities produce petroleum constantly throughout the year, others remain empty as long as the subterranean supply remains intermittent, yet others serve no purpose through the lack of a source. The depth of the cavities extends to thirty ells and over, and at night, not because the veins flowed to this depth but because a hole to a greater depth was used, the petroleum would ooze forth and accumulate, to be collected during the day by the laborers. No special measuring is necessary in excavating because the soil is clayey and firm, and may be dug out without causing danger to those digging even though scaffolding for supporting the walls at any particular depth is dispensed with.
>
> The work of drawing off the liquid is carried out manually by means of leather bottles lowered from above either by hand or by a quite simple winch. Only one particularly rich cavity has a rather large closed shed built over it. It was deeper and wider than the others, and the naptha flowing forth audibly in a fierce torrent, was drawn off with the aid of a contrivance built over it and set in motion alternately be two horses moving in a circle; here also work was only done for a few hours at night. The naptha was transported in sheepskin containers to the towns of Schamachi and Baku, thence by canal to the whole of Media, and from there on by sea to Hyrcania, Usbek, Circassia, and Daghestan. It is all used as lamp-oil and as fuel for torches being capable of illumination which surpasses all expectations![15]

In addition to espousing the fertility of the area, Kampfer's narrative provides a glimpse of early energy trade in the region.

[15] Gokay, 5-6.

Armenia, Azerbaijan, and Georgia have a longstanding and tenuous relationship with Russia. The South Caucasus states have historically served as a north-south and east-west trade and transport "land bridge" that linked Europe to the Middle East and Asia.[16] For over seventy years, the Soviet Union controlled the region. Soviet rule disrupted the bright outlook and rapid growth the region experienced as a result of the oil boom. Prior to the collapse of the Soviet Union, the petroleum transportation networks in Azerbaijan, Kazakhstan, and Turkmenistan provided petroleum to the internal Soviet economy and, more specifically, met the Soviet military's need for petroleum.[17] Author Bulent Gokay, Professor of International Relations at the Keele University School of Politics, International Relations, and Philosophy, suggests that in addition to fulfilling the requirements of the Soviet military, the early Soviet oil industry fostered a confident attitude among foreign buyers.[18] During the Second World War, the advancing German army threatened the vibrant oil industry and hoped to secure much needed petroleum for their war effort. Hitler's failure to capture Baku and its oil reserves represents one of the critical turning points of the war, because it forced Germany to confront the industrial strength of the Allies with dwindling stocks of petroleum.[19] Despite half-hearted

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[16] Jim Nichol, "Armenia, Azerbaijan, and Georgia: Political Developments and Implications for U.S. Interests," *Congressional Research Service: Issue Brief*. (June 15, 2005), http://ezproxy6.ndu.edu/login?url=http://search.ebscohost.com/login.aspx?direct=true&db=tsh&AN=17599807&site=ehost-live (accessed August 20, 2008).

[17] Geoffrey Kemp, *Energy Super Bowl: Strategic Politics and the Persian Gulf and Caspian Basin*, (Washington, DC: Nixon Center for Peace and Freedom, 1997), 49.

[18] Gokay, 9.

[19] Daniel Yergin, *The Prize: The Epic Quest for Oil, Money, and Power*, (New York: Simon & Schuster, 1991), 334-339.

attempts to expand production, negligence on the part of the Soviet Union caused deterioration in drilling and processing facilities in the Baku area.[20]

Since the collapse of the Soviet Union, the Caucasus-Caspian region has become a focal point for untapped oil and natural gas resources. The influx of new investment and infrastructure development has incited a Caspian oil rush.[21] Azerbaijan was the first to attract Western oil investors. Anxious to develop and explore the offshore oil fields of Chirag, Gunashly, and Azeri, a consortium under the name Azerbaijan International Oil Company was established by, among others, British Petroleum, Norwegian Statoil, Amoco, and Penzoil.[22] It is believed that the nations in the region, specifically Azerbaijan, Kazakhstan, and Turkmenistan, are situated on roughly 10 percent of the world's potential oil reserves.[23] Proven reserves total approximately 17 billion–49 billion barrels of oil, with a possible additional 100–300 billion barrels not yet proven.[24] By 2010, The Energy Information Administration (EIA) expects the countries of the Caspian Sea Region, alone, to produce between 2.9 and 3.8 million barrels per day, which would exceed annual production from South America's largest oil producer, Venezuela.[25] The region's natural gas potential is, arguably, more significant than its oil potential. Europe intends to diversify its source of energy imports via the natural gas assets of the

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[20] Klare, *Rising Powers, Shrinking Planet: The New Geopolitics of Energy*, 118.
[21] Charles Van der Leeuw, *Oil and Gas In the Caucasus & Caspian* , (New York: St. Martin's Press, 2000), 125.
[22] Van der Leeuw, *Oil and Gas In the Caucasus & Caspian* , 126.
[23] Bruce Nelan, "Caspian Black Gold," *Time Magazine* 151, no. 26 (June 29, 1998), http://www.time.com/time/magazine/1998/int/980629/cover_story.caspian_blac7.html (accessed October 15, 2008).
[24] "Caspian Sea Country Analysis Brief," *Energy Information Administration: Official Statistics From the U.S. Government*, http://www.eia.doe.gov/cabs/Caspian/Oil.html (accessed October 14, 2008).
[25] Ibid.

Caucasus-Caspian. The region contains roughly 230 trillion cubic feet of natural gas.[26] Natural gas production from Azerbaijan, Kazakhstan, Turkmenistan, and Uzbekistan in 2005 was comparable to three quarters of Canada's production that year.[27] In 2004, Canada provided 85 percent of gross U.S. imports of natural gas.[28] The region has yet to achieve its forecasted energy production. Nonetheless, many countries, specifically those in Europe are paying particular attention to the area's natural gas potential.

The Persian Gulf

The Persian Gulf and its coastal areas are the world's largest single source of crude oil. The region possesses 55% of the world's total proven crude oil reserves and 41% of the world's proven gas reserves.[29] Countries with a coastline on the Persian Gulf include the United Arab Emirates, Oman, Qatar, Bahrain, Kuwait, Iraq, and Iran. In 2006, the Persian Gulf countries exported 18.2 million barrels per day, to include roughly 17 million barrels per day via the Strait of Hormuz.[30] These totals represented roughly one-fifth of world oil supply for the year. Oil that did not traffic the Strait of Hormuz was exported via pipelines through Turkey to the Mediterranean Sea and Saudi Arabia to the Red Sea.

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[26] "Caspian Sea Country Analysis Brief," *Energy Information Administration: Official Statistics From the U.S. Government,* http://www.eia.doe.gov/cabs/Caspian/NaturalGas.html (accessed October 15, 2008).
[27] Ibid.
[28] "Predictions for Canada's Natural Gas Production," *The Oil Drum: Canada* (June 4, 2008), http://canada.theoildrum.com/node/4073 (accessed March 3, 2009).
[29] "Persian Gulf Region Analysis Brief," *Energy Information Administration: Official Statistics From the U.S. Government,* http://www.eia.doe.gov/emeu/cabs/Persian_Gulf/Background.html (accessed 19 October 2008).
[30] Ibid.

Any discussion of energy and Middle Eastern access should include Calouste Gulbenkian. This son of a merchant, who found favor in the Turkish government, established himself as a formidable businessman and the architect of many an oil deal. As a young man in the late nineteenth century after dabbling in the Ottoman Empire kerosene import business, Gulbenkian went to the Caucasus to learn about oil. His experience in Baku produced an assessment of the area's oil industry and instigated his lifelong interest in oil.[31] Gulbenkian's work attracted the attention of Turkish leaders who commissioned him to conduct a study of oil prospects in Mesopotamia, present day Iraq.[32] His destiny would long be intertwined with Persian Gulf access and prosperity.

Forced to flee Turkey during the Armenian massacres of 1896, Gulbenkian reemerged as an architect of Middle Eastern oil business arrangements.[33] As pandemonium reigned and aspirant tycoons worldwide risked their fortunes drilling for oil, Gulbenkian found his niche as an arbiter. When the British government became alarmed at the influence Germany was attempting to wield in the Middle East, Gulbenkian recognized an opportunity. He had received his formal education in Britain and had maintained key British contacts throughout his life. Great Britain needed someone that understood European oil interests, could communicate with the locals, possessed contacts and knowledge of the oil industry, and had the acumen, skills and foresight to represent their interests. Gulbenkian possessed all of the necessary traits and was in the right place at the right time; had he not existed, the British government would

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[31] Roy L. Nersesian, *Energy for the 21st Century: A comprehensive Guide to Conventional and Alternative Sources*, (Armonk: M.E. Sharp, 2007), 133-134.
[32] Ibid., 134.
[33] Ibid.

have had to invent him.[34] Gulbenkian's British links would prove fruitful for many years to come. Over the next forty years, endorsed by the Turkish Petroleum Company, Gulbenkian's negotiation skills opened the Middle East to the governments of Britain, France, the Soviet Union, and several U.S. oil companies.[35]

U.S. interest in Middle Eastern oil was sinusoidal through the decades leading up to World War II. American companies made their formal debut in the Middle East circa 1928 when Standard Oil of New Jersey, Standard Oil of New York, Gulf, Atlantic Refining Company, and the Pan American Petroleum and Transport Company joined other English and French companies in the multinational Turkish Petroleum Company's exploration of Iraq.[36] Another milestone in the accessibility of Persian Gulf energy was the granting of oil concessions to the California Arabian Standard Oil Company, the precursor of the Arabian Oil Company (ARAMCO), by Saudi Arabia in 1933.[37] Subsequent oil discoveries in Iran, Iraq, Bahrain, Kuwait, and Qatar encouraged American investors. The infusion of U.S. capital marked the beginning of a long and, on occasion, tumultuous relationship. As Europe prepared to fight Nazism, the U.S. began to understand and acknowledge the strategic significance of the Middle East. The region's vast oil reserves were simply unmatched anywhere else in the world. The Persian Gulf States dominated international export oils then, still do today, and will do so for the foreseeable future.

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[34] Nersesian, 134.
[35] Ibid., 134-137.
[36] Xuan Han Vo, *Oil, The Persian Gulf States, and the United States*, (Westport: Praeger Publishers, 1994), 84.
[37] Ibid.

While the containment of communism consumed the American government, the nation's oil tycoons were busy striking Middle Eastern deals. When host nations began to seek a share of the profits that foreign companies were reaping, U.S. citizens unwittingly became silent, underappreciated partners in these arrangements. Fearing a communist takeover in the Middle East, the U.S. government permitted U.S. companies to treat additional payments as foreign income taxes. Because the companies could not be taxed twice, U.S. citizens were basically subsidizing the additional cost of foreign oil.[38] Such support inadvertently made foreign oil properties more appealing and profitable than domestic ones.

Based on the negative impact cheap crude oil from the Soviet Union was having on market prices in Italy, India, and Japan, companies began cutting prices to remain competitive. These cuts had great impacts on profit margins. In an effort to quell this undesirable trend, oil ministers from Saudi Arabia, Kuwait, Iran, Iraq, and Venezuela met and established the Organization of Petroleum Exporting Countries (OPEC).[39] At their first conference in the fall of 1960, the founding members resolved that future price adjustments by international companies had to be approved by oil producing country governments to ensure price stability and the fundamental principles of market supply and demand were being properly observed.[40] As it pertained to the crisis at hand, the purpose of OPEC was not to raise prices, but to prevent further reductions in posted

[38]Nersesian, 142.
[39] Ibid., 145.
[40] *OPEC Chronology*, (Vienna: Secretariat Organization of the Petroleum Exporting Countries, 1980), 6.

prices.[41] Today, OPEC is comprised of 13 oil producing and exporting countries, spread across three continents. The organization now maintains a crucial place at the center of world affairs. The members are Algeria, Angola, Ecuador, Indonesia, Iran, Iraq, Kuwait, the Libya, Nigeria, Qatar, Saudi Arabia, United Arab Emirates, and Venezuela.[42] The size and international role of the organization has ebbed and flowed over the years. The organization's commitment to coordinate and unify petroleum policies, ensure the stability of oil markets, make certain a regular supply of petroleum to consumers, and guarantee a steady income to those investing in the petroleum industry has altered little after almost five decades of existence.[43]

The Persian Gulf region and OPEC have and will continue to be major players in any international energy discussion of consequence. As natural gas gains market share from oil in many regions, the outlook for the Gulf remains positive. Natural gas in this region will become increasingly important as both domestic consumption and exports increase. Roughly 18% of the world's liquefied natural gas is produced in this region, more specifically in Qatar and Iran.[44] The Persian Gulf region contains vast reserves of natural gas amounting to over 40 percent of the world's total. Iran, Qatar, Saudi Arabia, and the United Arab Emirates hold the world's second, third, fourth, and fifth-largest

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[41] Nersesian, 145.
[42] "What is OPEC?" *OPEC: Organization for Petroleum Exporting Countries* , http://www.opec.org/library/FAQs/aboutOPEC/q1.htm (accessed October 24, 2008).
[43] "OPEC's Mission," *OPEC: Organization for Petroleum Exporting Countries,* http://www.opec.org/home/ (accessed October 24, 2008).
[44] "Persian Gulf Region Analysis Brief," *Energy Information Administration: Official Statistics From the U.S. Government,* http://www.eia.doe.gov/emeu/cabs/Persian_Gulf/NaturalGas.html (accessed October 26, 2008).

reserves.[45] Russia is number one. At an October 2008 meeting in Tehran, Iran, Qatar and Russia agreed to form an OPEC-style organization for gas-exporting countries.[46] In general, gas markets are regional and fragmented. This will make controlling prices by a cartel difficult at best, but the lessons of the early oil industry will influence the burgeoning global gas industry nonetheless.

Africa

Africa is rapidly becoming an important oil producer and exporter. It is home to nine oil exporters – Nigeria, Angola, Congo-Brazzaville, Gabon, Equatorial Guinea, Cameroon, Chad, the Democratic Republic of Congo, and Sudan. Some have been producing oil for decades, while others have only recently begun exporting, and still others appear to be nearing the end of their respective heyday.[47] In 2003, an energy task force headed by Vice President Dick Cheney projected that Africa's oil sector would grow faster than any other in the world. According to the 2005 EIA forecast, African production capacity will nearly double by 2025.[48] Nigeria, an OPEC member, is one of the largest oil producer**s** in the world. According to the *Oil and Gas Journal* (*OGJ*), Nigeria had 36.2 billion barrels of proven oil reserves as of January 2007. The Nigerian government plans to expand its proven reserves to 40 billion barrels by 2010. In addition to its oil reserves, *OGJ* estimates that Nigeria contains an estimated 182 trillion cubic feet

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[45] Ibid.
[46] "Iran, Qatar, Russia Form Gas Alliance," *Wall Street Journal Digital Network*, http://online.wsj.com/article/SB122460817038154673.html?mod=fox_australian (accessed October 26, 2008).
[47] John Ghazvinian, *Untapped: The Scramble for Africa's Oil*, (Orlando: Harcourt, Inc., 2007), 26-31.
[48] Anthony H. Cordesman and Khalid R. Al-Rodhan, *The Global Oil Market: Risks and Uncertainties, (Washington: Center for Strategic and International Studies, 2006), 88.*

of proven natural gas reserves, which makes Nigeria the seventh largest natural gas reserve holder in the world and the largest in Africa. Angola recently overtook Nigeria as Africa's largest, and the world's eighth largest, oil producer—a combination of Angola's surge in growth and Nigeria's decline in production due to rebel attacks on its oilfields.[49] Angola is now producing over 1.9 million barrels per day of high-quality crude oil from onshore and near-shore fields, up from 900,000 barrels per day in 2002 and from 500,000 barrels per day in 1993.[50]

Despite recent setbacks, a proper treatise of African energy potential must originate in Nigeria. In addition to being one of Africa's largest oil producers, the country has a long history with international oil exploration. There was a time when Nigeria's prosperity appeared to have no bound. Inhabited by an enormous population and situated on some of the world's largest hydrocarbon deposits, the country seemed poised to become an African superpower.[51] For over five decades, foreign oil companies with millions of dollars worth of imported equipment have carried out some of the most sophisticated exploration and production operations known to man, against a backdrop of Stone Age squalor.[52] Even with the extraction of hundreds of millions of barrels of oil from the Niger Delta, prosperity continues to elude the locals.

In 1865, the British government, having recognized the enormous riches to be garnered from the region and resultant of pressure from Liverpool palm-oil traders,

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[49] Brian Smith, "Angola Becomes Africa's Largest Oil Producer," *World Socialist Website* (September 4, 2008), http://www.wsws.org/articles/2008/sep2008/ango-s04.shtml (accessed December 14, 2008).
[50] Ibid.
[51] Ghazvinian, 21.
[52] Ibid., 19.

declared the Niger Delta a British protectorate.[53] In the decades that followed, palm oil was replaced by crude oil, but agreements between governments and powerful multinational oil companies continued to shape the regional power structure. In fact, Nigerian politics since 1960 could be described as a loveless ménage à trois between the three majority tribes, each of which believes the other two are plotting against it. All the while the country's 200 other minority tribes are left on the sidelines to fend for themselves as the big three divvy up the spoils.[54] Over the years, large oil companies, uninterested in long-term cohabitation with local communities or unsure of how to achieve it, initiated the unofficial practice of paying off village chiefs to ensure their operations were not interrupted.[55] Historically, years of compromise have alternated with bouts of anger and violence in the Niger Delta. Heinous international incidents continue to share center stage with the signing of Memorandums of Understanding that restore peace via guaranteed compensation and community infrastructure projects.[56] As illustrated by the Nigerian case, much of Africa lacks the ability to combat foreign resource exploitation. The lack of trained professionals force African countries to depend upon foreign corporations to provide the technical support that allows major oil and gas projects to function.[57] As a result, foreign companies find it much more appealing to do business in Africa than in the Middle East or the Caucasus-Caspian region where state owned firms like Saudi ARAMCO and KazMuniaGaz operate under tight government

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[53] Ike Okonta and Oronto Douglas, *Where Vultures Feast: Shell, Human Rights, and Oil*, (London: Verso, 2003), 6-10.
[54] Ghazvinian, 23.
[55] Ibid., 25.
[56] Ibid., 26-31.
[57] Klare, *Rising Powers, Shrinking Planet*, 147.

supervision that limit opportunities and profitable deal making.[58] In addition, Africa's crude oil is highly prized by refiners in Europe and North America because it yields far more lucrative products than that of oil extracted from the Middle East. The role Africa has played for big state-owned and private oil companies cannot be overstated. The African continent is solely responsible for the addition of nearly a quarter of the globe's total increase in reserves over the past decade.[59] This return on investment has been a godsend for companies such as Royal Dutch Shell, the Exxon Mobil Corporation, and Total, all of which have struggled to keep reserves on their books. Outside of Africa, major new discoveries have proved elusive and host countries are committed to the negotiation of more favourable terms.[60]

Because enormous energy resources remain untapped and the security situation is uncertain, Africa's commercial energy production is very much below desirable levels. As western societies continue their quest for reliable modern energy services, there exists an opportunity to enhance productivity and reduce African poverty. Despite this promising outlook, industrial development in Africa will remain unattainable in the absence of reliable security.

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[58] Ian Gary and Terry Lynn Karl, *Bottom of the Barrel: Africa's Oil Boom and the Poor*, 13.
[59] Peter Fritsch, "Africa's Potential To Sate World Oil Demand Dims," *The Wall Street Journal* (October 22, 2008), http://online.wsj.com/article/SB122461947159855391.html?mod=fox_australian (accessed October 22, 2008).
[60] Ibid.

We will kill every iota of oil operations in the Niger Delta. We will destroy anything and everything. We will challenge our enemies in our territory and we shall feed them to the vultures.

Statement issued by the Nigerian radical separatist group People's Volunteer Force on September 23, 2005[1]

IV. U.S. Energy Dependence

The 2004 National Military Strategy of the United States of America identifies an "arc of instability" stretching from the Western Hemisphere through Africa and the Middle East and extending to Asia.[2] Intelligence reports suggest that within this arc, there exist areas that serve as terrorist breeding grounds. The United States painstakingly identified rogue states that provide sanctuary to terrorists and protect them from surveillance and attack. There are large expanses of ungoverned space and under-governed territories from which terrorists prepare plans, train forces, and launch attacks. These ungoverned areas usually coincide with locations of illicit activities. Such an environment creates opportunities for hostile coalitions of criminal elements and ideological extremists.[3] The identified arc not only houses some of America's most determined adversaries, it is home to the majority of the world's known hydrocarbon reserves. The accidents of geological history have ensured that these precious natural resources are unevenly distributed around the world.[4]

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[1] Ghazvinian, *Untapped: The Scramble for Africa's Oil*, 23.
[2] U.S. Joint Chiefs of Staff. 2004. *The National Military Strategy of the United States of America: A Strategy for Today; A Vision for Tomorrow.* (Washington, 2004), 5.
[3] Ibid.
[4] *Basic Oil Industry Information*, (Vienna: Public Information Department Organization of the Petroleum Exporting Countries, 1983), 3.

Arguably, a major war has yet to be fought exclusively related to the control of an oil or gas field. Disputes over hydrocarbon reserves have, however, been an undeniable element in a number of armed conflicts.[5] Fears related to the future scarcity of oil and political instability in the majority of oil and gas producing regions are, without doubt, cause for concern. Few would refute the supposition that the world economy lacks sufficient oil to sustain society's current consumption rates. Such a subscription is further exacerbated by the fact that outside of OPEC and the countries of the former Soviet Union, there appears to exist little oil. In 2008, gasoline prices in the United States steadily rose and topped $4.00 per gallon throughout most of the country during the summer. American energy consumers are more vulnerable than ever to price volatility brought about by demography, geology, and geopolitics. The costs of gas for cars and SUVs, diesel fuel that allow truck drivers to move goods from ports to doorsteps, and the home heating fuels that permit a comfortable night's sleep on cold winter nights, have all seen increases in recent years.[6] This, however, is not a new phenomenon. The exorbitant fuel consumption of the U.S. populace has long been a concern of America and the U.S. executive branch, but energy independence remains illusive.

Over 35 years ago, in response to an Arab oil embargo, President Richard Nixon vowed to make America energy independent in seven years. President Gerald Ford

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[5] Bochkarev.
[6] Frederick Cedoz, "Thinking Beyond OPEC." *The Journal of International Security Affairs no. 10.* (Spring 2006). http://www.securityaffairs.org/issues/2006/10/cedoz.php (accessed September 5, 2008).

moved the date for achieving American energy independence from 1980 to 1985.[7] President Jimmy Carter made energy the flagship policy of his administration. On April 18, 1977, in his first major energy speech, Carter declared that achieving energy independence was the "moral equivalent of war."[8] In August of 1977, Carter abolished both the Federal Energy Administration and the Energy Research and Development Administration with the Department of Energy Organization Act. The United States Department of Energy was created in October of 1977 to manage America's energy crisis.[9] In response to the commencement of the Iranian revolution, oil prices spiked in 1978. In his nationally televised speech on July 15, 1979, Carter, wearing a sweater, urged Americans to turn down their thermostats and use carpools or public transportation whenever they could.[10]

In 1991, as the nation prepared for the First Gulf War, President George H.W. Bush unveiled his national energy strategy. Reducing U.S. dependence on foreign oil was a pillar. Bush proposed a national energy strategy that again called for energy conservation, efficiency, and increased development/use of alternative fuels.[11] Bush's plan, like those before it, was supposed to achieve energy independence. President Bill Clinton proposed a lofty energy plan that challenged General Motors, Chrysler, and Ford

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[7] Ronald Bailey, "Energy Independence: The Ever-Receding Mirage: 30 Years of Presidential Failure and Futility," r*easononline* (July 21, 2004), http://www.reason.com/news/show/34845.html (accessed 17 November, 2008).
[8] Jimmy Carter, "Address to the Nation on Energy" (April 18, 1977), http://millercenter.org/scripps/archive/speeches/detail/3398 (accessed November 17, 2008).
[9] The U.S. Department of Energy, "About the Department of Energy", http://www.energy.gov/about/timeline1971-1980.htm (accessed November 21, 2008).
[10] Jimmy Carter, "Crisis of Confidence" (July 15, 1979), http://millercenter.org/scripps/archive/speeches/detail/3402 (accessed November 21, 2008).
[11] George H.W. Bush, "State of the Union Address" (January 29, 1991), http://millercenter.org/scripps/archive/speeches/detail/3429 (accessed November 21, 2008).

to produce a fuel efficient car that was three times more fuel efficient than anything currently in production by 2004.[12] Nevertheless, amid a global economic slowdown and in need financial assistance, the big three unveiled a new Yukon, Aspen, and F-350 in 2008. It is important to note that although there are other options for energy conscious consumers at General Motors, Chrysler, and Ford, these behemoths are anything but fuel efficient.

Under President George W. Bush's administration, a national energy task force led by Vice President Dick Cheney devised a national energy policy that was released in May 2001. The task force described America's energy situation in stark terms: "America in the year 2001 faces the most serious energy shortage since the oil embargoes of the 1970s. . . . A fundamental imbalance between supply and demand defines our nation's energy crisis."[13] After a 2001 Energy Advisors Meeting, President Bush suggested "what people need to hear loud and clear is that we're running out of energy in America. We can do a better job in conservation, but we darn sure have to do a better job of finding more supply. We can't conserve our way to energy independence."[14]

Five years later, Senators Barack Obama and John McCain, aspirant executives on the campaign trail, continued to beat the drum of energy independence. Both pledged

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[12] White House Press Statement, "US Auto Industry, Labor, Join President, Vice President to Give One Year Progress Report on Historic Partnership for New Generation of Vehicles" (October 18, 1994), http://clinton6.nara.gov/1994/10/1994-10-18-president-at-clean-car-announcement.html (accessed November 21, 2008).

[13] Bailey.

[14] "Remarks by the President, Secretary of Energy Abraham and Deputy Secretary of Defense Wolfowitz After Energy Advisors Meeting" (May 3, 2001), http://www.whitehouse.gov/news/releases/2001/05/20010503-4.html (accessed November 21, 2008).

to make energy a priority and rid the nation of its dependence on foreign oil. Throughout the campaign, oil tycoon and concerned citizen, T. Boone Pickens offered a non-partisan plan that promoted the use of wind power for electricity and the use of the homeland natural gas supply for auto fuel.[15] Less than two weeks after his historic victory, President-elect Obama vowed to free the nation from the tyranny of foreign oil.[16] Perhaps the new President should take a lesson from the one president who refused to tamper with the energy market. In January 1981, on the day he became president, Ronald Reagan ended the remaining federal regulations on domestic oil supplies and prices. U.S.-based oil companies had lost control over their former supply sources in the Persian Gulf and the economic interests of a broad spectrum of U.S. industries and consumers had suffered from earlier oil supply and price instability. The Reagan administration believed that continental free trade in energy would secure stable and low cost access to vast energy resources in Canada and Mexico for U.S. consumption.[17] Reagan understood that for most Americans lower gasoline prices and lower electric bills are all the energy independence they want or need. Stability, access, and flow must remain near-term U.S. watchwords, while renewable energy sources are developed and embraced.

Instability in the Caucasus and the Caspian

Unfettered access to natural resources, specifically energy, has been and will remain a vital U.S. interest. In this vein, regional security and the continued flow of oil

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[15] T. Boone Pickens, *The Plan*, http://www.pickensplan.com/theplan/ (accessed November 24, 2008).
[16] Barack Obama, *Your Weekly Address from the President-elect* (November 15, 2008), http://change.gov/newsroom/entry/your_weekly_address_from_the_president_elect/ , (accessed November 24, 2008).
[17] Paul Ciccantell, "NAFTA and the reconstruction of US hegemony: the raw materials foundations of economic competitiveness," *Canadian Journal of Sociology*, 26, no. 1 (Winter 2001), 57.

and natural gas from the Caucasus-Caspian is paramount. Although very little, if any, energy is imported from the region to the continental U.S., Europe is extremely dependent on unencumbered flow from the Caucasus-Caspian and global cooperative security is extremely dependent on European participation. Shifting demographics, extremist ideologies, and a rising Russia are potential flashpoints. While the United States procures the bulk of its oil from Canada, Mexico, and Venezuela, most of Europe is supplied by Russia and the Caucasus-Caspian region. One cannot accurately speak to the challenges in this region without addressing Russia. In conjunction with budding extremism, the flow of energy provides the backdrop for the preponderance of European diplomatic discussions. U.S. regional ambitions and rivalries with Russia and China have the potential to be regionally destabilizing. U.S. geopolitical maneuvering can easily be interpreted as a quest for control and access to energy. From the Russian perspective, the inclusion of Ukraine and Georgia in NATO, theater missile defense encroachment, and U.S. withdrawal from the Anti-Ballistic Missile Treaty are all threats. In late August, while unveiling what has come to be referred to as the Medvedev doctrine, Russian President Dimitri Medvedev clearly articulated the Russian position as follows:

> First, Russia recognizes the primacy of the fundamental principles of international law, which define the relations between civilized peoples. We will build our relations with other countries within the framework of these principles and this concept of international law.
>
> Second, the world should be multi-polar. A single-pole world is unacceptable. Domination is something we cannot allow. We cannot accept a world order in which one country makes all the decisions, even as serious and influential a country as the United States of America. Such a world is unstable and threatened by conflict.

> Third, Russia does not want confrontation with any other country. Russia has no intention of isolating itself. We will develop friendly relations with Europe, the United States, and other countries, as much as is possible.
>
> Fourth, protecting the lives and dignity of our citizens, wherever they may be, is an unquestionable priority for our country. Our foreign policy decisions will be based on this need. We will also protect the interests of our business community abroad. It should be clear to all that we will respond to any aggressive acts committed against us.
>
> Finally, fifth, as is the case of other countries, there are regions in which Russia has privileged interests. These regions are home to countries with which we share special historical relations and are bound together as friends and good neighbors. We will pay particular attention to our work in these regions and build friendly ties with these countries, our close neighbors.[18]

In short, the Medvedev doctrine is an ambitious plan that will repair Russia's broken society at home and restore its place in the world. It is an idealistic plan that redraws the world's security and financial infrastructure on Russian terms. It is dependent on petrodollars. Medvedev desires to replace some of America's influence in Europe with Russia's through a mixture of military threats and the use of Russia's enormous gas reserves as leverage.[19]

The fourth and fifth premises offered by Medvedev are particularly troubling, in terms of energy security. The world has changed dramatically since the fall of the Soviet Union in 1991. How will the Russians define aggression? In this age of globalization there are scores of western companies with interests in Russia and its near abroad. The number of western stakeholders is substantially greater than that which existed during the

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[18] George Friedman, "The Medvedev Doctrine and American Strategy," *Stratfor* (September 2, 2008), http://www.stratfor.com/weekly/medvedev_doctrine_and_american_strategy (accessed December 4, 2008).
[19] Owen Matthews and Anna Nemtsova, "The Medvedev Doctrine," *Newsweek* (December 1, 2008), http://www.newsweek.com/id/170303/output/print (accessed December 4, 2008).

Cold War. As Russia flexes its diplomatic and military might on the European continent, longstanding and burgeoning western allies are forced to reassess coalition commitments and national interests.

Russian muscle flexing in the summer of 2008 also served the purpose of sensitizing the United States of the vulnerability of the Baku-Tbilisi-Ceyhan (BTC) oil pipeline. The pipeline was built specifically to bypass Russia.[20] Post-war tensions between Russia and Georgia continue to run high. In late December 2008, Medvedev questioned the mental stability of his Georgian counterpart Mikheil Saakashvili. Medvedev insists that the decision to go to war with Georgia was over South Ossetia and nothing else. In early 2009, Georgia and the United States signed a strategic partnership treaty that will potentially exacerbate Russian tension with Tbilisi.

In Azerbaijan corruption is rampant and the nation's dependence on oil revenues is near total. After assuming power from his father in a less than fair election, Ilham Aliev has not indicated any willingness to pursue democratic or political reform and appears to be drifting toward even more authoritarianism than his father.[21] If Aliev should fall ill or be removed, civil war resultant of political infighting is a very real possibility. In addition, Azerbaijan's territorial dispute with Armenia on the Nagorno-Karabakh enclave remains unresolved and a resumption of hostilities cannot be ruled out.

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[20] "Iran, Qatar, Russia Form Gas Alliance," *Wall Street Journal* (October 22, 2008), http://online.wsj.com/article/SB122460817038154673.html?mod=fox_australian (accessed October 22, 2008).
[21] Crandall, 58.

The BTC pipeline skirts Nagorno-Karabakh to the north. If war resumes, shipments are likely to be interrupted, as Armenia will seek to deny its enemy a source of funds.[22]

Favorable political conditions and pipelines to connect resources to markets are energy prosperity preconditions. Since achieving independence, most countries in the region have not made substantial progress in the development of their hydrocarbon resources. Europe is extremely dependent on unencumbered flow from the Caucasus-Caspian. Roughly sixty-three percent of the European Union natural gas supply is imported. Eighty percent of this supply comes from Russia.[23] The bulk of Russia's gas exports to the continent pass through Ukraine. When Russia shut off gas supplies to the Ukraine for two days in early 2006 both France and Italy reported a drop in deliveries.[24] The EU received yet another reminder of Moscow's grip on regional energy supply after failed contract discussions in December 2008. The suspension resulted in cut-offs of various degrees to France, Turkey, Poland, Germany, Italy, Hungary, Romania, Austria, the Czech Republic, Greece, Croatia, Macedonia, Bosnia, Serbia and Bulgaria.[25] Many of these countries experienced mass power outages and heating failures. If the Caucasus-Caspian region is going to be a focal point for untapped oil and natural gas resources, the BTC pipeline will play a vital role and U.S.–Russian relations must be constructive.

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[22] Crandall, 68.
[23] "Central Asia's Energy Risks," *International Crisis Group Asia Report N°133*. (May 24, 2007). http://www.crisisgroup.org/home/getfile.cfm?id=2949&tid=4866&type=pdf (accessed August 20, 2008), 32.
[24] Ibid.
[25] Peter Zeihan, "The Russian Gas Trap," *Stratfor* (January 13, 2009), http://www.stratfor.com/weekly/20090113_russian_gas_trap (accessed January 13, 2009).

Instability in the Persian Gulf

Russian energy influence extends well beyond the Caucasus-Caspian. With the goal of creating an OPEC-style organization for gas exporting countries, Iran, Qatar, and Russia formed a gas alliance in October 2008. Gas producers have long desired an "Organization of Natural Gas Exporting Countries" that mirrors the 13-member OPEC. A natural gas cartel, however, may not provide the international influence Russia desires. Over the last three decades, OPEC has become increasingly ineffective as a guarantor of reliable and affordable, yet profitable, oil prices.

External factors greatly diminish OPEC's ability to stabilize oil markets, ensure a regular supply of petroleum to consumers, and provide a steady income to those investing in the petroleum industry. Since the inception of OPEC, the impact of geopolitical factors on the oil market has steadily increased. September 11, 2001 had a profound impact. With the advent of the Global War on Terror, political instability in OPEC countries has assumed increased importance. Attacks on the Persian Gulf oil infrastructure, once just a remote possibility, are now probable.[26]

Iran, a country that has garnered the ire of Washington powerbrokers since its revolutionary rebirth in 1979, remains a vital player in the Persian Gulf and Caspian Sea regions. Both of these regions are synonymous with oil development and heated

[26] Cedoz.

geopolitical competition since the demise of the Soviet Union.[27] While researching the Iranian influence on the geopolitical fabric of the region, Ph.D. candidate Luke Patey deftly noted that while U.S. influence has limited Tehran's involvement in regional oil and gas development, European and Japanese investment have kept Iran's oil industry, and subsequently its economy afloat. "American sanctions drove Iran to seek further investment partners in the rising eastern powers of China, India, and Russia, which have in return found a critical energy partner in Tehran and one that shares concerns of American hegemony."[28] Tension between leaders in Washington and Tehran is but another factor in the wobbly peace of the Middle East.

As the wars in Afghanistan and Iraq continue to drain U.S. treasure and will, hostilities between Israel and Palestine are in full swing. Long a source of international and regional strain, after several days of saber-rattling, Israeli aircraft commenced a relentless string of assaults on Hamas-ruled Gaza as Israeli ground troops, backed by tanks and artillery, massed along the border in December 2008. As the death toll rose, the Iranians pledged their support to Hamas while U.S. diplomats continued a longstanding commitment to Israel. While speaking to the Manama summit in Bahrain in 2007, U.S. Secretary of Defense Robert Gates suggested that Iran was responsible for "fomenting instability and chaos, no matter the strategic value or the cost in the blood of

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[27] Luke Patey, "Iran and the New Geopolitics of Oil: An Annotated Bibliography," *Danish Institute for International Studies* DIIS Working Paper no. 2006/24 (Spring 2001). http://www.minibib.dk/F?func=find-b&P_CON_LNG=ENG&DOC_LNG_00=ALL&local_base=dcism&find_code=SYS&request=403001 (accessed August 20, 2008).

[28] Ibid.

innocents—Christians, Jews and Muslims alike."[29] There exists damning evidence that the Iranians have supported terrorists in both Afghanistan and Iraq with arms, explosives, and expertise. While campaigning President Barack Obama said he would abandon a decades-long policy of isolating Iran and seek high-level talks with Tehran. Unfortunately, the bloodshed in Gaza sparked outrage throughout the Middle East and the frosty U.S.-Iranian relationship seems unlikely to thaw anytime soon.[30]

As U.S. and European diplomats preached restraint and encouraged Israel to bring the conflict to a hasty conclusion, fluctuating gas prices wreaked havoc on petrodollar-dependent national economies. The issue of Israel is problematic. Saudi Arabia has expressed disappointment with the pro-Israel U.S. position in the wake of previous Palestinian-Israeli violence.[31] Nonetheless, amid American pleas for energy independence and a ridding of a national oil addiction, Saudi Arabia is spending millions to keep the oil age going. The world's largest oil producer is doing everything within its power to assuage supply concerns and ensure its number one customer that all is well. The Saudi government, however, is unable to address the many sources of instability in the region without U.S. support. Islamic extremists have long viewed close Arab military relations with foreigners disrespectful to their version of Islam. In terms of

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[29] Robert M. Gates, *Remarks as Delivered by Secretary of Defense Robert M. Gates, Manama, Bahrain, Saturday, December 08, 2007*, http://www.defenselink.mil/speeches/speech.aspx?speechid=1201 (accessed January 12, 2009).
[30] Yochi J. Dreazen and Margaret Coker, "Gates Talk Suggests Relations With Iran to Remain," *The Wall Street Journal* (December 13, 2008), http://online.wsj.com/article/SB122912698963903177.html?mod=fox_australian (accessed December 13, 2008).
[31] Steve Yetiv, *Crude Awakenings: Global Oil Security and American Foreign Policy*, (Ithaca: Cornell University Press, 2004), 86.

basing options and military power projection, Saudi Arabia plays a pivotal role for U.S. forces in the region. The fall of Saddam Hussein's regime temporarily eased some security concerns, but the emergence of non-state terrorist actors and the ever-looming threat from Iran will keep Washington and Riyadh joined at the hip. The quest for energy security in the Persian Gulf has many players and many threads. It will always be a volatile and tumultuous endeavor.

Instability in Africa

The decision to establish the new Africa Command is a pronouncement that Susan Rice, assistant secretary of State for African affairs under President Bill Clinton and the current United States Ambassador to the United Nations for the Obama administration, believes is "long overdue". By establishing the combatant command, Rice suggests the United States "did what common sense should have done earlier, which is to elevate the understanding…in the Pentagon of our strategic stake in Africa. Africa has the preponderance of the world's weak and failed states, and we ignore it at our peril."[32] As the enormous expanse of untapped energy resources in Africa garners the attention of U.S. friends and potential foes, the region has newfound importance for policymakers.

Inundated by war, famine, disease, and ethnic tensions, the African continent has generally taken a backseat in Pentagon planning.[33] Since December 2005, Nigeria has experienced increased pipeline vandalism, kidnappings, and a militant takeover of oil

[32] Richard Whittle, "Pentagon to train a sharper eye on Africa; Strife, oil, and Al Qaeda are leading the US to create a new Africa Command," *Christian Science Monitor* (January 5, 2007), http://www.csmonitor.com/2007/0105/p02s01-usmi.html (accessed January 2, 2009).
[33] Ibid.

facilities in the Niger Delta. These occurrences are not unique to Nigeria. War-ridden Sudan, which only started exporting oil in 1999, became sub-Saharan Africa's third largest oil producer in 2008.[34] While working at an oil field in the central Sudanese state of South Kordofan near the troubled Darfur region, nine employees of the China National Petroleum Corporation were kidnapped on October 18, 2008.[35] As the United States government wrestles with the conundrum of China as an adversary or strategic competitor, the Chinese demand for resources, specifically, African hydrocarbons, has the potential to become a wedge in U.S.-Chinese relations. Angola, one of the world's fastest-growing economies, recently overtook Nigeria as sub-Saharan Africa's largest oil producer. Chinese money and manpower played a key role in the reconstruction of Angola since the end of its 27-year civil war in 2002. Tens of thousands of Chinese workers are employed on infrastructure and transportation projects throughout the country.[36] Angola is now one of China's largest suppliers of crude oil. In addition to Angola, oil imports from Ethiopia are highly prized in Beijing. Chinese companies continue to expand their presence in Africa despite security challenges. In April of 2007, nine Chinese oil workers and sixty-five Ethiopians were killed during a rebel attack on a Chinese oilfield.[37] The rebel attacks underline the risks that oil companies face when

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[34] "Sudan now Africa's third largest oil producer," *Afrol News* (October 11, 2009), http://www.afrol.com/articles/21889 (accessed January 11, 2009).
[35] Heba Aly and Scott Bauldauf, "Will killing of oil workers harden China's Darfur policy?" *Christian Science Monitor* (October 29, 2008), http://www.csmonitor.com/2008/1029/p04s01-woaf.html (accessed January 12, 2009).
[36] "Oil-Rich Angola Launches Direct Flight to China," *AFP Worldwide News Agency on Brietbart.com* (December 14, 2008), http://www.breitbart.com/article.php?id=081214113126.5yjxcnvb&show_article=1&catnum=0 (accessed January 9, 2009).
[37] "Chinese push in Africa won't be derailed by deadly rebel attack," *Press and Journal* (Scotland), April 26, 2007.

drilling for oil in Africa even when they have the support of the host government. As suggested by Dr. Rice, a long term strategy for Africa, especially its pertinence to energy security and access, is long overdue. Security cooperation and access to energy opportunities in Africa may provide a vehicle by which to bolster U.S.-Chinese relations.

In January 2009, the U.S. Navy announced a new task force dedicated to combating piracy in the Horn of Africa. The Horn of Africa is at the southernmost end of one of the world's busiest shipping lanes. The waters off the coast of Somalia have been the site of over 100 pirate attacks during 2008. International Maritime Bureau Director, Captain Pottengal Mukundan, suggests, "The increased frequency of piracy and heightening levels of violence are of significant concern to the shipping industry and all mariners. The types of attacks, the violence associated with the attacks, the number of hostages taken, and the amounts paid in ransoms for the release of the vessels have all increased considerably."[38] Pirates have broadened their targets to bigger vessels, to include oil tankers. In most cases ransom demands have hovered around the $1 million-$2 million range, but the hijackers demanded $25 million for the release of the Sirius Star, a Saudi oil tanker captured 450 miles off the Somali coast carrying cargo valued at more than $100 million.[39] Navies from the United States, India, Russia and Europe, and Great Britain along with many others have increased their patrols, but all lack the requisite resources to protect every vessel that transits these waters. In response to

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[38] "Unprecedented Rise in Piracy Attacks," *International Chamber of Commerce* (October 24, 2008), http://www.icc-ccs.org/index.php?option=com_content&view=article&id=306:unprecedented-rise-in-piratical-attacks&catid=60:news&Itemid=51 (accessed January 12, 2009).

[39] Ashby Jones, "Pirates Keep Law Firm Buzzing," *Wall Street Journal* (December 10, 2008), http://online.wsj.com/article/SB122886821440893125.html?mod=googlenews_wsj (accessed December 10, 2008).

increased piracy in the region, the United Nations Security Council passed a resolution supporting a European Union naval mission to combat piracy off the coast of Somalia.[40] Piracy is not a new phenomenon. Attacking oil tankers, however, is. Not until the brazen pirates attacked a tanker and a Ukrainian cargo ship with tanks and heavy weapons aboard, did the international community get seriously engaged in the Gulf of Aden. The theft of Gucci sunglasses and petty cash off cruise ships can be overlooked and has been for a long time. Energy theft, however, is an offense that cannot and will not be tolerated.

As the exorbitant fuel consumption of the U.S. populace continues to plague America and the U.S. executive branch, the quest for resources is in full swing. The "arc of instability" and its store of hydrocarbons, specifically Africa's unrealized potential, are of interest to both near-peer competitors and likely adversaries. Unfettered access to natural resources, specifically energy, has been and will remain a vital U.S. interest. In this vein, regional security in, and the continued flow of oil and natural gas from, energy-rich regions will demand increased attention and resources.

[40] United Nations Security Council Media Statement, *"Resolution 1816 (2008),"* (June 2, 2008), http://www.un.org/News/Press/docs/2008/sc9344.doc.htm (accessed December 9, 2008).

We must face the fact that peace must be built upon power, as well as upon good will and good deeds.
President Harry Truman[1]

V. Then and Now

According to a Department of Homeland Security intelligence assessment released in December 2008, the terrorism threat to the United States over the next five years will be driven by instability in the Middle East and Africa. The assessment suggests that terrorist networks will continue to attack U.S. targets vulnerable to massive economic losses, casualties and political "turmoil".[2] Long-term relations with Russia are at a crossroads as a result of their near abroad goals. The uncertainty associated with business ventures in the Caucasus-Caspian, Persian Gulf, and Africa may prove too much for even the most ambitious international entrepreneurs. Energy security, specifically safe transit, must be more than a desire. It must be guaranteed. Not unlike the free flow of commerce in the Mahan era, the United States is obligated to play a pivotal role as the guarantor of the free flow of global energy.

Of the top 15 world oil net-exporters listed on the U.S. Department of Energy website, Muslim is the primary religion for more than half of the countries and two of the states have been identified as terrorism sponsors by the U.S. Department of State.[3]

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[1] Robert J. Donavan, *Conflict & Crisis: The Presidency of Harry S. Truman 1945-1948*, (Columbia: University of Missouri Press, 1997), 137.
[2] "5-year terrorism threats forecast for U.S. Homeland Security: Beware instability in Middle East, Africa," *Associated Press* (December 25, 2008), http://www.msnbc.msn.com/id/28387496/ (accessed December 26, 2008).
[3] Energy Information Administration, "Top World Oil Net Exporters, 2006," http://tonto.eia.doe.gov/country/index.cfm (accessed January 15, 2009).

Although, fundamentally, there exists no problem with the Muslim faith, Islamists and Muslim extremists are problematic. The burgeoning youth bulge, poverty, and Muslim expansion pose potential problems in energy rich regions. Nigeria, Africa's most populous country and a major supplier of oil to the United States, is a great example of the strategic risks posed by youthful, volatile nations plagued by corruption and instability. Nigerian rebels, enraged by the unequal distribution of oil revenues have already launched attacks on the industry.[4]

In January of 2009, during the Russian-Ukraine standoff, the impact of an interrupted European gas supply was on world display. In this particular instance, the stoppage was the result of stalled negotiations, but could just as easily been the result of a terrorist attack. The crisis left scores of Europeans without heat and forced factories in some countries to close. The need for the European Union to diversify its natural gas supply is outside the scope of this study, but the impact of Russian gas pipelines and their vulnerability is not. European energy consumption necessitates not only a reliable partner, but also unfettered flow.

In the United States, despite multiple quests for energy independence, the realization remains to be seen. In this age of global interdependence, renewable energies, though desirable, are too expensive and unreliable to immediately compete with oil and gas. Although U.S. energy import diversification is on a better footing than that of the EU, it too is susceptible to disruptions in flow. Recent natural disasters offer a glimpse of

[4] Celia W. Dugger, "War likelier in youthful countries, report says," *International Herald Tribune* , April 5, 2007.

some of the challenges associated with interrupted energy flow. During the fall of 2008, in the wake of Hurricane Ike, motorists vied for precious drops of gas from Anniston, Alabama to Asheville, North Carolina. The effects of the hurricane emptied two critical pipelines that feed much of the South, leading to widespread panic-buying, shuttered pumps, and even some fistfights.[5] Energy independence may remain elusive, but energy security as it pertains to reliable and uninterrupted access will remain a staple in the American psyche.

Securing the New Silk Road

The concept of energy security has many different meanings. Generally speaking, energy security refers to the accessibility of a reliable and adequate supply at a reasonable price that is capable of supporting an expanding population and economy.[6] Since the end of the cold war, energy markets have become more globally integrated and more accessible. This transformation has provoked a debate about what policy approaches are most useful for ensuring energy security. Internal instability, terrorist attacks, and brazen pirates underscore the vulnerability of energy lanes and the many threats that jeopardize energy supplies. Although energy policy has traditionally been characterized as a "non-military" component of U.S. national security, achieving stability in the energy producing states and defending energy lanes are major military goals that increasingly require international attention and cooperation.[7]

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[5] Patrik Jonsson, "Post-Ike gas shortage may take weeks to end," *Christian Science Monitor* (September 25, 2008), http://www.csmonitor.com/2008/0925/p25s10-ussc.html (accessed January 17, 2009).
[6] Crandall, 21.
[7] Martha Harris, "Energy Security," *Grave New World: Security Challenges in the 21st Century*, ed. Michael E. Brown, (Washington, D.C.: Georgetown University Press, 2003), 158.

The responsibility to secure the original Silk Road fell to many. Power and wealth garnered on this vast transit network was directly proportional to the ability to control at least part of it. The Huns, the Turks, the Persians, and the Mongols all contributed and reaped accordingly. Similarly, the United States, as the leading energy-consuming nation and only global superpower, has both the opportunity and the responsibility to shape energy security on the new Silk Road. Too many politicians choose the easier call for "energy independence" over the harder quest for unfettered flow. The U.S. will not be secure if competition for control of energy resources around the world leads to conflict and market disruptions.[8]

Not all threats to the continued flow of oil and natural gas from energy-rich regions require military solutions. In fact, multilateral diplomatic approaches are preferred. Cooperative approaches to energy security are critical. Martha Caldwell Harris, Senior Fellow at the Atlantic Council of the United States and adjunct professor at Georgetown University's Center for Peace and Security Studies, proffers that "in the context of globally integrated energy markets, the United States can best secure its own energy future by fostering multilateral cooperation among governments, international agencies, and private sector actors."[9] In the midst of tumbling crude prices and stressed oil-dependent economies, the government of Dubai pledged to invest $16 billion in

[8] Harris, 175.
[9] Ibid., 174.

Nigeria to develop oil and natural-gas drilling projects.[10] Dubai's desire to seek investment deals outside the Persian Gulf amid the global financial downturn provides opportunity for both western policymakers and entrepreneurs. Militant violence continues unabated in Nigeria's main energy producing region. Belligerent actions have long hobbled energy projects and discouraged private sector investors. Dubai's investment coupled with government, international agency, and private sector cooperation could easily meet the basic needs of the local population and begin to tap Nigeria's robust energy reservoir. This is but one example of cooperation to address an energy security issue where the host nation or primary investors are incapable.

Pipelines and Sea Lanes

In general, most natural gas flows in pipelines from the point of production to the point of use. Liquid natural gas transported by tanker or truck is an option, but currently comprises less than 10 percent of the global gas trade and allows far less flexibility of destination.[11] Gas, on the other hand, although it can be transported by pipeline from point of production to point of use, is more often than not, transported via tanker or truck. As a rule of thumb, tankers, compared to pipelines, usually provide a cheaper service for moving large tonnages of crude oil. Transportation costs greatly impact the price consumers ultimately pay. Fluctuating tanker rates and cross-border pipeline transit fees are key factors in the development and functioning of hydrocarbon exporting and

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[10] Spencer Swartz, "Dubai Will Invest the Most in Deal to Boost Nigeria," *Wall Street Journal* (January 19, 2009), http://online.wsj.com/article/SB123241540963196359.html?mod=fox_australian (accessed January 21, 2009).

[11] James T. Jensen, "The Development of a LNG Market," http://www.oxfordenergy.org/pdfs/NG5.pdf (accessed January 21, 2009).

importing economies. Sharp conflicts of interest, as illustrated by Russia's actions towards former Soviet republics and unrelenting Middle Eastern disagreements, pose additional challenges. For this reason, much effort is devoted to the monitoring of key global chokepoints. Narrow channels along widely used sea routes are critical aspects of global energy security due to the high volume of energy traded through their narrow straits. The Strait of Hormuz leading out of the Persian Gulf and the Strait of Malacca linking the Indian and Pacific Oceans are two of the world's most strategic chokepoints. Other important passages include: Bab el-Mandab which connects the Arabian Sea with the Red Sea; the Panama Canal and the Panama Pipeline connecting the Pacific and Atlantic Oceans; the Suez Canal and the Sumed Pipeline linking the Red Sea and Mediterranean Sea; and the Turkish/Bosporus Straits joining the Black Sea and the Caspian Sea region to the Mediterranean Sea.[12] Whether by pipeline from point of production to point of use or via tanker or truck, energy trade calls for a reliable transportation network. Without such a system, energy exporting nations cannot get their commodity to market and energy importing states cannot access vital resources.

Due to a persistent naval presence by many interested parties, disturbances in the strategic chokepoints have been minimal. They have, however, occurred. Past disturbances include the installation of mines in the Strait of Hormuz during the Iran-Iraq War in the 1980s, a terrorist attack in the Strait of Malacca in 2003, the closing of the Suez Canal for eight years after the 1967 Six-Day War, and the terrorist attack on the

[12] "World Oil Transit Chokepoints," *Energy Information Administration: Official Statistics From the U.S. Government*, http://www.eia.doe.gov/emeu/cabs/World_Oil_Transit_Chokepoints/Background.html (accessed January 24, 2009).

USS Cole in Bab el-Mandab in 2003.[13] There exists a persistent piracy threat and since September 11, 2001, the threat of terrorism is ever-looming.

Attacks on pipelines are not novel. In fact, the first pipelines ever constructed in the continental U.S. were casualties of sabotage. Teamsters, accustomed to charging three or four dollars per barrel for a five to ten mile haul, were appalled when they learned that one two-inch pipe could deliver up to 2000 barrels per day to a storage tank.[14] They attacked the pipeline. Men were hurt and lives were lost. After authorities intervened, more than 20 arsonists were imprisoned and countless others became fugitives from justice.[15] The pipeline prevailed and over the years pipeline networks have greatly expanded. Inflamed passion, political or religious, as is the case in the Middle East, or geopolitical calculations, like those between Russia and former Soviet Republics continue to cause significant problems.

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[13]"World Oil Transit Chokepoints," *Energy Information Administration: Official Statistics From the U.S. Government*.
[14] Kandiyoti, Rafael, *Pipelines: Flowing Oil and Crude Politics*, (London: I.B. Tauris, 2008), 7.
[15] Ibid.

The Force-In-Being

Mahan defined the fleet-in-being as the presence of a strong force, despite its inferiority, that produces a momentous effect upon the adversary's action.[16] A force-in-being is the land equivalent of the fleet-in-being. Such a formation extends a controlling influence without ever deploying to execute combat operations. Its mere existence entices adversaries to continually deploy forces to guard against it while avoiding the risk of being destroyed in battle. Mahan allegedly did not subscribe to the theory, but the concept served the Germans well in both world wars. The four year stand-off in the North Sea during the First World War is an oft-cited example of the fleet-in-being. The threat posed by the High Seas Fleet forced the British to invest much of their naval strength on containment. This costly investment made the Grand Fleet incapable of supporting offensive operations and rendered efforts to counter the emerging U-Boat threat nearly impossible.[17] During the Second World War, the German battleship Tirpitz spent most of the war based in Norway and never fired a shot at an Allied ship. The mere presence of the Tirpitz, however, was a threat and consumed a considerable amount of Allied naval and air power. Winston Churchill commented that the Tirpitz "exercises a vague and general fear and menaces all points at once. It appears and disappears causing immediate reactions and perturbations on the other side."[18]

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[16] "Fleet in Being," *Time Magazine* (March 29, 1943), http://www.time.com/time/magazine/article/0,9171,790810,00.html (accessed January 7, 2009).
[17] "Maritime Strategic Concepts," *Australian Maritime Doctrine*, (Commonwealth of Australia: Defence Publishing Service), 37, http://www.navy.gov.au/Publication:Australian_Maritime_Doctrine (accessed January 26, 2009).
[18] Milan Vego, *Naval Strategy and Operations in Narrow Seas*, (New York: Frank Cass Publishers, 2003), 210.

As stated by General William Westmoreland more than four decades ago, "You cannot deploy troops, however direly needed, that exist only on paper."[19] President Barack Obama has clearly articulated his desire to end the U.S. active combat role in Iraq and place more emphasis on the problems in Afghanistan. His avocation, however, necessitates difficult trade-offs. The demands of two wars have created significant military strains. Any additional manpower and/or equipment put into Afghanistan must necessarily come from a reduction in the capability in Iraq. Many uniformed officers in Iraq, to include the top U.S. commander, General Raymond Odierno, want to keep troop levels relatively steady to avoid jeopardizing recent security gains.[20]

A cost-imposing strategy that employs a force-in-being scheme to address lesser conflicts is in order as the U.S. redefines its priorities and commits large formations in what appears to be a zero-sum game. President Ronald Reagan deftly employed the fundamentals of such an idea in 1983. As mutually assured destruction dominated the thoughts of international strategic minds, Reagan embraced a dramatic and unexpected strategic ballistic missile defense concept. Although the technology was uncertain and distant, Star Wars, as the concept was dubbed, incited a new dimension to the arms race and greatly contributed to the demise of the Soviet Union.[21]

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[19] William C. Westmoreland, *A Soldier Reports*, (New York: Da Capo Press, Inc., 1989), 356.
[20] Yochi J. Dreazen, "Marines Propose Iraq Withdrawal, Shift to Afghanistan in '09," *The Wall Street Journal* (January 24, 2009), http://online.wsj.com/article/SB123275907840012057.html?mod=fox_australian (accessed January 25, 2009).
[21] Raymond L. Garthoff, *The Great Transition: America-Soviet Relations and the End of the Cold War*, (Washington, D.C.:Brookings Institutional Press, 1994), 514.

One could argue that Moqtada Al Sadr adeptly executed a force-in-being strategy in Iraq. The true size and capability of Sadr's Mahdi Army remains an unknown. Land forces, especially irregular ones like the Mahdi Army, possess inherent advantages over fleets. A land component is impossible to sink, and unlike a fleet, can easily blend into the population. As a result, it cannot be contained in port the way a fleet can. The threat of deploying in parts, executing strikes and raids, then disappearing is a formidable deterrent. In addition, unlike the fleet that may be lured out of port for a decisive battle, an inferior land component will rarely engage in a head to head confrontation with a known superior force. The controlling influence of the Mahdi Army in eastern Baghdad greatly impacted coalition operations during Operation Iraqi Freedom and necessitated the continual deployment of forces to guard against it.

The most important aspect of a force-in-being is its existence. What is perceived is what is believed. As policymakers examine the global power equation and attempt to assure friends and influence the actions of others, the threat of military intervention must be at their disposal. The realities associated with fighting two wars necessitate the economization of the U.S. force. Nonetheless, pipelines have to be protected and strategic sea lanes must remain open. Political, religious, and geopolitical strains that impact global energy trade cannot be ignored indefinitely. The United States, as the world's preeminent military power, will be called upon to intercede in regional conflicts rooted in energy trade. A strategically positioned force-in-being provides a means to address this anticipated request.

The motto seen on so many ancient cannon, "ultima ratio regum" [the final argument of kings], is not without its message to republics.

Alfred Thayer Mahan[1]

VI. Extending Western Political Arms

The landscape of global energy trade has, without doubt, changed. At the beginning of the 20th century, petroleum represented less than four percent of the world's consumed energy. Today, oil supplies represent in excess of forty percent of the world's energy and ninety-six percent of all transportation energy.[2] Dr. David Anderson suggests:

> The United States is on the verge of a new kind of war—between those who are seeking oil and are increasingly willing to go out and secure it, and those that are determined to disrupt its flow to promote their agenda. As demand for oil increases, as global oil production continues to lag behind demand, as terrorists increasingly target oil production infrastructure, and as producers such as Iran, Saudi Arabia, Venezuela, and Nigeria grow more unstable, the struggle to maintain access to adequate energy supplies—always a critical mission for any nation—will become even more challenging and uncertain and will require more resources, political attention, and military intervention to secure.[3]

Throughout history, statesmen have attempted to predict, wage, and at times, prevent armed conflict. Warfare has been and will continue to be a bargaining chip in state and non-state interaction. Clausewitz posits that "if the state is to be thought of as a person, and policy as the product of its brain, then among the contingencies for which the state must be prepared is a war in which every element calls for policy to be eclipsed by

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[1] Mahan, *The Interest of America In Sea Power*, 16.
[2] "The Future of Oil", *Institute for the Analysis of Global Energy*, http://www.iags.org/futureofoil.html (accessed December 29, 2008).
[3] David Anderson, "Oil Security and the Necessity for Global Cooperation," *Small Wars Journal*, http://smallwarsjournal.com/mag/docs-temp/10-anderson.pdf (accessed December 29, 2008).

violence."[4] If not monitored, the energy dependence of the United States and its allies in Europe and Asia, combined with the growing dependence of rising powers such as China and India, will rapidly erode American power and influence around the world."[5]

Dr. James R. Locher III, executive director of the Project on National Security Reform, suggests preparation for a much wider array of contingencies. His assertion, that U.S. friends and foes are no longer neatly arrayed in fixed alliances, is game-changing. Newly empowered sub-state and non-state actors are unpredictable and wield much greater influence through enabling technologies that permit superior coordination of their activities and increase the destructive impact of their actions.[6] As the world demand for energy grows, energy-rich regions will demand more attention and access. Energy production infrastructure is ripe for terrorist attack. Ungoverned or under-governed areas offer safe havens from which terrorist attacks are planned, resourced, and executed. While the U.S. military cannot be everywhere, nor can it do everything, a U.S. security commitment is critical for the vast network of ports and pipelines.

The United States will frequently be unable to anticipate the exact capabilities needed to address the next crisis. Under then Secretary of Defense Donald Rumsfeld, the Department of Defense stepped off on the proper azimuth. The current secretary, Robert

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[4] Carl von Clausewitz, *On* War, trans. and ed. Michael Howard and Peter Paret (New York: Alfred A. Knopf, 1993), 100.
[5] David L. Goldwyn, "Energy Security: The New Threats in Latin America and Africa," *Current History: A Journal of Contemporary World Affairs* 105, no. 695 (December 2006):441.
[6] James R. Locher III, "The Most Important Thing: Legislative Reform of the National Security System," *Military Review* (May-June 2008), http://usacac.army.mil/CAC/milreview/English/MayJun08/LocherEngMayJun08.pdf (accessed January 4, 2009).

Gates, has stayed the course. Rumsfeld dismissed the need to fight two conventional wars simultaneously and valued a capabilities-based force proficient in the projection of power from the continental United States. This is a sound approach, however, it does not account for the protracted nature of the conflicts that the U.S. is in and provides no recourse for diplomatic and military muscle flexing on the European continent. The U.S. National Military Strategy expresses plans to defeat adversaries by altering the unacceptable behaviour or policies of states; rapidly seizing the initiative or preventing conflict escalation; denying sanctuary, defeating offensive capabilities or objectives; and providing support to post-conflict stability.[7] These are, admittedly, labor intense aims and demand economization where applicable. A joint expeditionary force-in-being capable of rapid strategic placement will certainly help.

The Rapidly Deployable Joint Expeditionary Force-in-being

As the United States grapples with two ground conflicts and the enduring wars on drugs, border security, and terror, its citizens should expect to be engaged in some form of combat for the next generation. As is the case today, the staying power of the all-volunteer force construct will be tested. Besides the challenges associated with manning the force, the very fabric of the organization will be confronted. As articulated in the 2004 National Military Strategy:

> Defeating adaptive adversaries requires flexible, modular and deployable joint forces with the ability to combine the strengths of individual Services, combatant commands, other government agencies and multinational partners. Joint forces will require new levels of

[7] 2004 *National Military Strategy*, 22.

> interoperability and systems that are "born joint," i.e., conceptualized and designed with joint architectures and acquisition strategies. This level of interoperability ensures that technical, doctrinal and cultural barriers do not limit the ability of joint commanders to achieve objectives. The goal is to design joint force capabilities that increase the range of options – from kinetic to non-kinetic – available to the President and Secretary of Defense.[8]

Washington understands the need to create a joint force that can contend effectively with uncertainty.

The joint expeditionary force-in-being, reminiscent of President Jimmy Carter's Rapid Deployment Force and akin to the current Global Response Force, can provide a rapid response to a range of contingencies, promote security cooperation, and ensure strategic access via regional partnerships. This concept will require additional manpower for the nation's ground forces. Because decisions to increase the size of both the U.S. Army and U.S. Marine Corps have already been made, the requisite growth is in progress. The Marine Corps manning construct, under which it is anticipated that recruits will serve their initial enlistment only, is ideal for the joint expeditionary force-in-being.

A critical aspect of this concept is availability. When President Carter issued his now famous edict to regard any attempt to gain control of the Persian Gulf as an assault on U.S. vital interests of the United States, the United States did not actually possess forces capable of fulfilling this role. Many viewed the doctrine as too dramatic and felt Washington was incapable of following through. To remedy this challenge, Carter created a new entity, the Rapid Deployment Force, an ad hoc assortment of U.S.-based

[8] Ibid., 23.

forces designated for possible employment in the Middle East. On October 1, 1979, President Carter issued a presidential directive and unveiled before a nationally televised audience the existence of a Rapid Deployment Force capable of responding to contingencies anywhere in the world. Conceived with a global orientation, the attention and planning of the force quickly became singularly focused on the Persian Gulf region. In fact, immediately following the Iranian revolution and the acknowledgement of a Soviet combat brigade in Cuba, a concerted effort to establish the force envisioned in the directive began in earnest.[9] In 1983, President Reagan transformed the Rapid Deployment Force into Central Command (CENTCOM), the name it bears today. At present, CENTCOM is largely preoccupied with the wars in Iraq and Afghanistan, but it has never given up its original role of guarding and ensuring the free flow of oil from the Persian Gulf in accordance with the Carter Doctrine.

During his second tenure as Secretary of Defense, Donald Rumsfeld replaced the decades-old two major theater war force-sizing construct with an approach more appropriate for the 21st century. The American fighting force is rapidly becoming the flexible, light, agile force that can respond quickly to sudden changes anywhere in the world that Rumsfeld envisioned. What the U.S. asks of its armed forces is manpower intense and demands a judicious employment and distribution of forces. Collectively, the armed forces of the United States have set a course that focuses first and foremost on victory in Afghanistan and Iraq, continued preparation for threats the U.S. anticipates

[9] Congressional Budget Office, *"Rapid Deployment Forces: Policy and Budgetary Implications,"* http://www.cbo.gov/ftpdocs/50xx/doc5057/doc07a.pdf (accessed February 25, 2009).

facing within the next ten years, and transformation in preparation for threats the U.S. will face beyond 2020. Application of a cost-imposing strategy that employs a force-in-being to address conflicts rooted in energy trade would provide the requisite military force that permits statesmen to assure friends and influence the actions of others.

There is a rank due to the United States among nations, which will be withheld, if not absolutely lost, by the reputation of weakness—if we desire to avoid insult we must be ready to repel it; if we desire to secure peace it must be known that we are at all times ready for war.

George Washington[1]

VII. Conclusion

For the better part of the 21st century and perhaps well into the next, the preponderance of all commercial energy consumed will be met by oil and gas. Crude oil, therefore, will continue as the most important source of energy. High oil prices affect social stability in major energy exporting and importing countries. As energy prices reached all time highs during the summer and fall of 2008, U.S. consumers adjusted thermostats, altered driving habits, and increased use of carpools and public transportation. As they felt the pinch at the pump, many vowed to make fuel efficiency a required feature for their next automobile purchase. The nation echoed similar declarations in 1973. High levels of oil income can be problematic for exporting countries as well. They often give rise to complaints about the fair distribution of profits. Saudi Arabia, Iran, and Nigeria illustrate this point. In addition, some states attempt to use energy as a political weapon or source of competitive and strategic foreign policy advantage. Energy producing and energy transit states are ripe for extremism. Terrorists are increasingly focusing attacks on energy producing assets and transportation

[1] George Washington, Fifth Annual Message (December 3, 1793), *The American Presidency Project, http://www.presidency.ucsb.edu/ws/index.php?pid=29435 (accessed March 28, 2009).*

infrastructure. Fears related to the future scarcity of oil and political instability in the majority of oil and gas producing regions are, without doubt, cause for concern.

This paper investigated global energy security challenges and suggested an expeditionary force-in-being as a means to attend to anticipated future disputes. The full measure of national power, where military muscle is the guarantor, will be required to quell future energy conflicts. As the world's preeminent military power, the United States will eventually intercede in a regional conflict rooted in energy trade. The nation has a keen interest in the free flow of energy. Reliable energy sources constitute the core of many challenges confronting U.S. national and economic security. Political leaders must have the use of military force at their disposal when giving assurance to friends and persuading the actions of others on the new energy laden silk roads. While operationally constrained in Afghanistan and Iraq, the U.S. ability to influence anything militarily outside of the Middle East is limited at best. Rapid employment of a land component is, at present, an undeniable stretch. The influence and globalization of energy trade necessitates a rapidly deployable, joint, expeditionary force-in-being to ensure American energy security guarantees have value.

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Vita

Major Jason E. Kelly, a native of Flint, Michigan, received his commission as an engineer officer upon graduation from the United States Military Academy in 1994, where he received a Bachelor of Science degree in Mathematics. He is a graduate of the Combined Arms Services Staff School, the Sapper Leader Course, as well as the Engineer Officer Basic and Advanced Courses. He holds a Master of Science degree in Engineering Management from the Missouri University of Science and Technology and a Master of Science degree in Statistics from the Georgia Institute of Technology.

Major Kelly has held a variety of leadership and staff positions throughout his career. His initial assignment was with the 2nd Armored Division, Fort Hood, Texas where from 1994 to 1996 he served as a Line Platoon Leader, Assault & Obstacle Platoon Leader, and Company Executive Officer in the 588th Engineer Battalion (Combat). From 1996-1997, he served as the Brigade Plans Officer for the 4th Infantry Division Engineer Brigade. From 1998-1999, while at Camp Howze, Korea, Major Kelly served as the Adjutant for both the 44th Engineer Battalion (Combat) and the 2nd Infantry Division Engineer Brigade. Prior to assuming command of Headquarters and Headquarters Company, 11th Engineer Battalion (Combat), 3rd Infantry Division (Mech), Fort Stewart, Georgia, Major Kelly was the Assistant Operations Officer for the 10th Engineer Battalion (Combat), 3rd Infantry Division. After company command, Major Kelly participated in the Army's Advanced Civil Schooling Program and attended the Georgia Institute of Technology. Upon completion of his studies at Georgia Tech, he assumed duty as an advanced calculus instructor in the Department of Mathematics at the United States Military Academy, West Point, NY. After a year in the math department, Major Kelly served as the Aide-de-Camp to the Superintendent. Major Kelly recently concluded 28 months of service, to include 12 months in Iraq, as the Operations Officer for the 20th Engineer Battalion (Combat Effects), 36th Engineer Brigade, Fort Hood, Texas.

Major Kelly is married to the former Stephanie King of Carrollton, MS. The Kelly's have two children, Jacob and Zachary.